

ceæ with *Aroideæ*; Lindley subsequently separated them, and as it appears*, chiefly on account of the pendent ovules. Not to mention that the ovules are not unfrequently pendent in *Aroideæ*, which Lindley has forgotten; it is also to be observed that the ovules in *Typhaceæ* are only *spuriè* pendula, for in them also we meet with the *raphe aversa*.

DESCRIPTION OF THE FIGURES.

Fig. 1. Adonis vernalis. Longitudinal section of the *ovarium* just before the expansion of the flower.

a. Placenta. In the fully developed flower, the form of the ovulum scarcely changed.

Fig. 2. Ranunculus repens. The same.

Fig. 3. Ranunculus repens. Just after the expansion of the flower.

a. Placenta;—*b. Raphe*.

Fig. 4. Anemone nemorosa. Just after the expansion of the flower.

a. and *b.* As in the preceding figure.

XVIII.—*On the Bone of an unknown Struthious Bird of large Size from New Zealand.* By RICHARD OWEN, Esq., F.R.S.

THE bone of an unknown Struthious bird of large size, presumed to be extinct, has been placed by Mr. Rule, in the hands of Professor Owen for examination, with the statement that it was found in New Zealand, where the natives have a tradition that it belonged to a bird of the Eagle kind, but which has become extinct, and to which they give the name "Movie." Similar bones it is said are found buried in the banks of the rivers.

The following is an abstract of Professor Owen's account of this bone, communicated to the Zoological Society, Nov. 12.

"The fragment is the shaft of a femur, with both extremities broken off. The length of the fragment is six inches, and its smallest circumference is five inches and a half. The exterior surface of the bone is not perfectly smooth, but is sculptured with very shallow reticulate indentations: it also presents several intermuscular ridges. One of these extends down the middle of the anterior surface of the shaft to about one-third from the lower end, where it bifurcates; two

* Upon a reference to Lindley's 'Natural System of Botany,' ed. ii. p. 365, it will be found that this is not an exact statement. That author's words are, "They (*Typhaceæ*) are generally regarded as a distinct tribe by most writers, and are surely sufficiently characterized by their *calyx being 3-sepalled and half glumaceous, or a mere bundle of long hairs, long lax filaments, clavate anthers, solitary pendulous ovules, and peculiar habit.*"—ED.

ceæ with *Aroideæ*; Lindley subsequently separated them, and as it appears*, chiefly on account of the pendent ovules. Not to mention that the ovules are not unfrequently pendent in *Aroideæ*, which Lindley has forgotten; it is also to be observed that the ovules in *Typhaceæ* are only *spuriè* pendula, for in them also we meet with the *raphe aversa*.

DESCRIPTION OF THE FIGURES.

Fig. 1. Adonis vernalis. Longitudinal section of the *ovarium* just before the expansion of the flower.

a. Placenta. In the fully developed flower, the form of the ovulum scarcely changed.

Fig. 2. Ranunculus repens. The same.

Fig. 3. Ranunculus repens. Just after the expansion of the flower.

a. Placenta;—*b. Raphe*.

Fig. 4. Anemone nemorosa. Just after the expansion of the flower.

a. and *b.* As in the preceding figure.

XVIII.—*On the Bone of an unknown Struthious Bird of large Size from New Zealand.* By RICHARD OWEN, Esq., F.R.S.

THE bone of an unknown Struthious bird of large size, presumed to be extinct, has been placed by Mr. Rule, in the hands of Professor Owen for examination, with the statement that it was found in New Zealand, where the natives have a tradition that it belonged to a bird of the Eagle kind, but which has become extinct, and to which they give the name "Movie." Similar bones it is said are found buried in the banks of the rivers.

The following is an abstract of Professor Owen's account of this bone, communicated to the Zoological Society, Nov. 12.

"The fragment is the shaft of a femur, with both extremities broken off. The length of the fragment is six inches, and its smallest circumference is five inches and a half. The exterior surface of the bone is not perfectly smooth, but is sculptured with very shallow reticulate indentations: it also presents several intermuscular ridges. One of these extends down the middle of the anterior surface of the shaft to about one-third from the lower end, where it bifurcates; two

* Upon a reference to Lindley's 'Natural System of Botany,' ed. ii. p. 365, it will be found that this is not an exact statement. That author's words are, "They (*Typhaceæ*) are generally regarded as a distinct tribe by most writers, and are surely sufficiently characterized by their *calyx being 3-sepalled and half glumaceous, or a mere bundle of long hairs, long lax filaments, clavate anthers, solitary pendulous ovules, and peculiar habit.*"—ED.

ceæ with *Aroideæ*; Lindley subsequently separated them, and as it appears*, chiefly on account of the pendent ovules. Not to mention that the ovules are not unfrequently pendent in *Aroideæ*, which Lindley has forgotten; it is also to be observed that the ovules in *Typhaceæ* are only *spuriè* pendula, for in them also we meet with the *raphe aversa*.

DESCRIPTION OF THE FIGURES.

Fig. 1. Adonis vernalis. Longitudinal section of the *ovarium* just before the expansion of the flower.

a. Placenta. In the fully developed flower, the form of the ovulum scarcely changed.

Fig. 2. Ranunculus repens. The same.

Fig. 3. Ranunculus repens. Just after the expansion of the flower.

a. Placenta;—*b. Raphe*.

Fig. 4. Anemone nemorosa. Just after the expansion of the flower.

a. and *b.* As in the preceding figure.

XVIII.—*On the Bone of an unknown Struthious Bird of large Size from New Zealand.* By RICHARD OWEN, Esq., F.R.S.

THE bone of an unknown Struthious bird of large size, presumed to be extinct, has been placed by Mr. Rule, in the hands of Professor Owen for examination, with the statement that it was found in New Zealand, where the natives have a tradition that it belonged to a bird of the Eagle kind, but which has become extinct, and to which they give the name "Movie." Similar bones it is said are found buried in the banks of the rivers.

The following is an abstract of Professor Owen's account of this bone, communicated to the Zoological Society, Nov. 12.

"The fragment is the shaft of a femur, with both extremities broken off. The length of the fragment is six inches, and its smallest circumference is five inches and a half. The exterior surface of the bone is not perfectly smooth, but is sculptured with very shallow reticulate indentations: it also presents several intermuscular ridges. One of these extends down the middle of the anterior surface of the shaft to about one-third from the lower end, where it bifurcates; two

* Upon a reference to Lindley's 'Natural System of Botany,' ed. ii. p. 365, it will be found that this is not an exact statement. That author's words are, "They (*Typhaceæ*) are generally regarded as a distinct tribe by most writers, and are surely sufficiently characterized by their *calyx being 3-sepalled and half glumaceous, or a mere bundle of long hairs, long lax filaments, clavate anthers, solitary pendulous ovules, and peculiar habit.*"—ED.

other ridges or lineæ asperæ traverse longitudinally the posterior concave side of the shaft ; one of them is broad and rugged, the other is a mere linear rising.

“The texture of the bone, which affords the chief evidence of its ornithic character, presents an extremely dense exterior crust, varying from one to two lines in thickness ; then there occurs a lamello-cellular structure of from two to three lines in thickness. The lamellæ rise vertically to the internal surface of the dense wall, are directed obliquely to the axis of the bone, decussate and intercept spaces which are generally of a rhomboidal form, and from two to three lines in diameter. This coarse cancellated structure is continued through the whole longitudinal extent of the fragment, and immediately bounds the medullary cavity of the bone, which is about one inch in diameter at the middle, and slightly expands towards the extremities. There is no bone of similar size which presents a cancellous structure so closely resembling that of the present bone as does the femur of the Ostrich ; but this structure is interrupted in the Ostrich at the middle of the shaft where the parietes of the medullary, or rather air-cavity, are smooth and unbroken. From this difference I conclude the Struthious bird indicated by the present fragment to have been a heavier and more sluggish species than the Ostrich ; its femur, and probably its whole leg, was shorter and thicker. It is only in the Ostrich’s femur that I have observed superficial reticulate impressions similar to those on the fragment in question. The Ostrich’s femur is sub-compressed, while the present fragment is cylindrical, approaching in this respect nearer to the femur of the Emeu ; but its diameter is one-third greater than that of the largest Emeu’s femur, with which I have compared it.

“The bones of the extremities of the great *Testudo elephantopus* are solid throughout. Those of the Crocodile have no cancellous structure like the present bone. The cancellous structure of the mammiferous long bones is of a much finer and more fibrous character than in the fossil.

“Although I speak of the bone under this term, it must be observed that it does not present the characters of a true fossil ; it is by no means mineralized : it has probably been on, or in, the ground for some time, but still retains most of its animal matter. It weighs seven ounces twelve drachms, avoirdupois.

“The discovery of a relic of a large struthious bird in New Zealand is one of peculiar interest, on account of the remarkable character of the existing Fauna of that island, which still includes one of the most extraordinary and anomalous genera of the struthious

other ridges or lineæ asperæ traverse longitudinally the posterior concave side of the shaft ; one of them is broad and rugged, the other is a mere linear rising.

“The texture of the bone, which affords the chief evidence of its ornithic character, presents an extremely dense exterior crust, varying from one to two lines in thickness ; then there occurs a lamello-cellular structure of from two to three lines in thickness. The lamellæ rise vertically to the internal surface of the dense wall, are directed obliquely to the axis of the bone, decussate and intercept spaces which are generally of a rhomboidal form, and from two to three lines in diameter. This coarse cancellated structure is continued through the whole longitudinal extent of the fragment, and immediately bounds the medullary cavity of the bone, which is about one inch in diameter at the middle, and slightly expands towards the extremities. There is no bone of similar size which presents a cancellous structure so closely resembling that of the present bone as does the femur of the Ostrich ; but this structure is interrupted in the Ostrich at the middle of the shaft where the parietes of the medullary, or rather air-cavity, are smooth and unbroken. From this difference I conclude the Struthious bird indicated by the present fragment to have been a heavier and more sluggish species than the Ostrich ; its femur, and probably its whole leg, was shorter and thicker. It is only in the Ostrich’s femur that I have observed superficial reticulate impressions similar to those on the fragment in question. The Ostrich’s femur is sub-compressed, while the present fragment is cylindrical, approaching in this respect nearer to the femur of the Emeu ; but its diameter is one-third greater than that of the largest Emeu’s femur, with which I have compared it.

“The bones of the extremities of the great *Testudo elephantopus* are solid throughout. Those of the Crocodile have no cancellous structure like the present bone. The cancellous structure of the mammiferous long bones is of a much finer and more fibrous character than in the fossil.

“Although I speak of the bone under this term, it must be observed that it does not present the characters of a true fossil ; it is by no means mineralized : it has probably been on, or in, the ground for some time, but still retains most of its animal matter. It weighs seven ounces twelve drachms, avoirdupois.

“The discovery of a relic of a large struthious bird in New Zealand is one of peculiar interest, on account of the remarkable character of the existing Fauna of that island, which still includes one of the most extraordinary and anomalous genera of the struthious

other ridges or lineæ asperæ traverse longitudinally the posterior concave side of the shaft ; one of them is broad and rugged, the other is a mere linear rising.

“The texture of the bone, which affords the chief evidence of its ornithic character, presents an extremely dense exterior crust, varying from one to two lines in thickness ; then there occurs a lamello-cellular structure of from two to three lines in thickness. The lamellæ rise vertically to the internal surface of the dense wall, are directed obliquely to the axis of the bone, decussate and intercept spaces which are generally of a rhomboidal form, and from two to three lines in diameter. This coarse cancellated structure is continued through the whole longitudinal extent of the fragment, and immediately bounds the medullary cavity of the bone, which is about one inch in diameter at the middle, and slightly expands towards the extremities. There is no bone of similar size which presents a cancellous structure so closely resembling that of the present bone as does the femur of the Ostrich ; but this structure is interrupted in the Ostrich at the middle of the shaft where the parietes of the medullary, or rather air-cavity, are smooth and unbroken. From this difference I conclude the Struthious bird indicated by the present fragment to have been a heavier and more sluggish species than the Ostrich ; its femur, and probably its whole leg, was shorter and thicker. It is only in the Ostrich’s femur that I have observed superficial reticulate impressions similar to those on the fragment in question. The Ostrich’s femur is sub-compressed, while the present fragment is cylindrical, approaching in this respect nearer to the femur of the Emeu ; but its diameter is one-third greater than that of the largest Emeu’s femur, with which I have compared it.

“The bones of the extremities of the great *Testudo elephantopus* are solid throughout. Those of the Crocodile have no cancellous structure like the present bone. The cancellous structure of the mammiferous long bones is of a much finer and more fibrous character than in the fossil.

“Although I speak of the bone under this term, it must be observed that it does not present the characters of a true fossil ; it is by no means mineralized : it has probably been on, or in, the ground for some time, but still retains most of its animal matter. It weighs seven ounces twelve drachms, avoirdupois.

“The discovery of a relic of a large struthious bird in New Zealand is one of peculiar interest, on account of the remarkable character of the existing Fauna of that island, which still includes one of the most extraordinary and anomalous genera of the struthious

order, and because of the close analogy which the event indicated by the present relic offers to the extinction of the Dodo of the island of the Mauritius. So far as a judgment can be formed of a single fragment, it seems probable that the extinct bird of New Zealand, if it prove to be extinct, presented proportions more nearly resembling those of the *Dodo* than of any of the existing *Struthionidæ*.

“Any opinion, however, as to its specific form can only be conjectural; the femur of the Stilt-bird (*Himantopus*) would never have revealed the anomalous development of the other bones of the leg; but so far as my skill in interpreting an osseous fragment may be credited, I am willing to risk the reputation for it on the statement that there has existed, if there does not now exist, in New Zealand, a Struthious bird, nearly, if not quite, equal in size to the Ostrich.”

XIX.—*Miscellanea Zoologica*. By GEORGE JOHNSTON, M.D., Fellow of the Royal College of Surgeons of Edinburgh.

[Continued from vol. iv. p. 375.]

CONTRIBUTIONS TOWARDS A HISTORY OF THE IRISH ANNELIDES.

A LARGE collection of Irish Annelidans has been put in my possession by my friend Wm. Thompson, Esq. of Belfast. The collection was made partly by Dr. Drummond, Messrs. Ball, Hyndman, and Allman, but principally by Mr. Thompson himself, who had determined several of the species, and was well aware of the distinctions of others. As however the state of his eyes forbade him the long use of the microscope, he declined entering on their minuter examination,—a task which I have too willingly undertaken, for I was loath to lose this opportunity of having my name associated with those of the most zealous and distinguished cultivators of Irish zoology.

My attention having accidentally been called, in the first place, to the genus *Nereis*, I proceed to give the results of a careful examination of the many specimens of it in the collection, as well as of some others procured from other sources; and this will enable me to correct some blunders of a previous Essay, and to characterize anew all the species which have been hitherto ascertained to be natives of our shores. As of most natural and typical genera in every class of animals and of plants, the species appear to be numerous, and to resemble

order, and because of the close analogy which the event indicated by the present relic offers to the extinction of the Dodo of the island of the Mauritius. So far as a judgment can be formed of a single fragment, it seems probable that the extinct bird of New Zealand, if it prove to be extinct, presented proportions more nearly resembling those of the *Dodo* than of any of the existing *Struthionidæ*.

“Any opinion, however, as to its specific form can only be conjectural; the femur of the Stilt-bird (*Himantopus*) would never have revealed the anomalous development of the other bones of the leg; but so far as my skill in interpreting an osseous fragment may be credited, I am willing to risk the reputation for it on the statement that there has existed, if there does not now exist, in New Zealand, a Struthious bird, nearly, if not quite, equal in size to the Ostrich.”

XIX.—*Miscellanea Zoologica*. By GEORGE JOHNSTON, M.D., Fellow of the Royal College of Surgeons of Edinburgh.

[Continued from vol. iv. p. 375.]

CONTRIBUTIONS TOWARDS A HISTORY OF THE IRISH ANNELIDES.

A LARGE collection of Irish Annelidans has been put in my possession by my friend Wm. Thompson, Esq. of Belfast. The collection was made partly by Dr. Drummond, Messrs. Ball, Hyndman, and Allman, but principally by Mr. Thompson himself, who had determined several of the species, and was well aware of the distinctions of others. As however the state of his eyes forbade him the long use of the microscope, he declined entering on their minuter examination,—a task which I have too willingly undertaken, for I was loath to lose this opportunity of having my name associated with those of the most zealous and distinguished cultivators of Irish zoology.

My attention having accidentally been called, in the first place, to the genus *Nereis*, I proceed to give the results of a careful examination of the many specimens of it in the collection, as well as of some others procured from other sources; and this will enable me to correct some blunders of a previous Essay, and to characterize anew all the species which have been hitherto ascertained to be natives of our shores. As of most natural and typical genera in every class of animals and of plants, the species appear to be numerous, and to resemble

order, and because of the close analogy which the event indicated by the present relic offers to the extinction of the Dodo of the island of the Mauritius. So far as a judgment can be formed of a single fragment, it seems probable that the extinct bird of New Zealand, if it prove to be extinct, presented proportions more nearly resembling those of the *Dodo* than of any of the existing *Struthionidæ*.

“Any opinion, however, as to its specific form can only be conjectural; the femur of the Stilt-bird (*Himantopus*) would never have revealed the anomalous development of the other bones of the leg; but so far as my skill in interpreting an osseous fragment may be credited, I am willing to risk the reputation for it on the statement that there has existed, if there does not now exist, in New Zealand, a Struthious bird, nearly, if not quite, equal in size to the Ostrich.”

XIX.—*Miscellanea Zoologica*. By GEORGE JOHNSTON, M.D., Fellow of the Royal College of Surgeons of Edinburgh.

[Continued from vol. iv. p. 375.]

CONTRIBUTIONS TOWARDS A HISTORY OF THE IRISH ANNELIDES.

A LARGE collection of Irish Annelidans has been put in my possession by my friend Wm. Thompson, Esq. of Belfast. The collection was made partly by Dr. Drummond, Messrs. Ball, Hyndman, and Allman, but principally by Mr. Thompson himself, who had determined several of the species, and was well aware of the distinctions of others. As however the state of his eyes forbade him the long use of the microscope, he declined entering on their minuter examination,—a task which I have too willingly undertaken, for I was loath to lose this opportunity of having my name associated with those of the most zealous and distinguished cultivators of Irish zoology.

My attention having accidentally been called, in the first place, to the genus *Nereis*, I proceed to give the results of a careful examination of the many specimens of it in the collection, as well as of some others procured from other sources; and this will enable me to correct some blunders of a previous Essay, and to characterize anew all the species which have been hitherto ascertained to be natives of our shores. As of most natural and typical genera in every class of animals and of plants, the species appear to be numerous, and to resemble